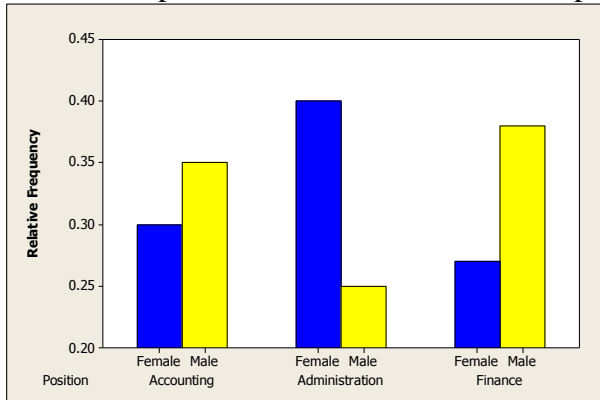
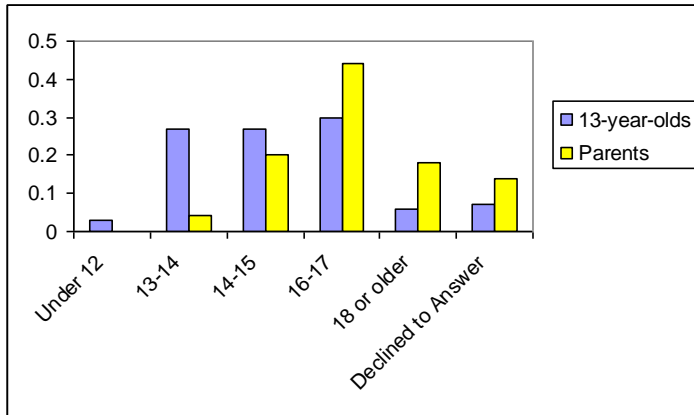


Chapter 3 AP MC Questions

1. The comparative bar chart shown here is potentially misleading because



2. Time magazine carried out a national online poll of 501 13-year-olds. One question asked 13-year-olds what age they thought it was appropriate for them to begin dating, and another question asked at what age their parents thought it was appropriate for them to begin dating. The results are shown in the comparative bar chart below. What can you conclude from the display?



3. The stem-and-leaf display below shows the service times (in seconds) for a sample of 25 customers at Frank's Hotdogs.

Leaf Unit = 1.0

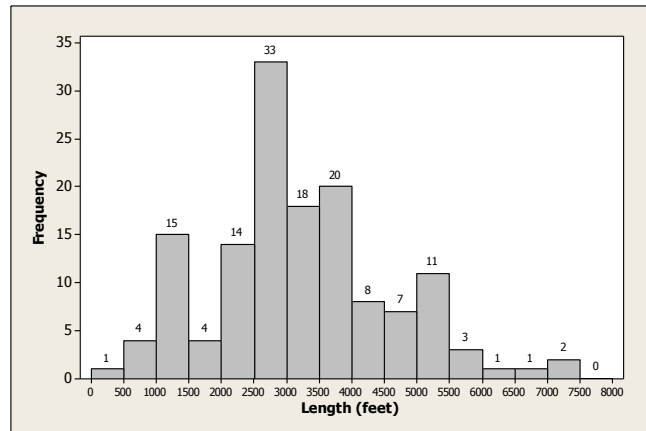
```

8   0113467789
9   1233
10  245
11  34
12  05
13  23
14
15  9
16
17
18
19
20  0

```

The smallest and largest value in the data set? What is the mean, median, and range of the data?

4. The lengths (in feet) of 142 roller coasters are summarized in the following histogram.



What is the proportion of roller coasters with a length greater than 2500 feet?

5. Describe each of the stem and leaf plots below.

I.

Leaf Unit = 0.10

1	467789
2	23557
3	2256
4	0238
5	08
6	011
7	7

II.

Leaf Unit = 0.10

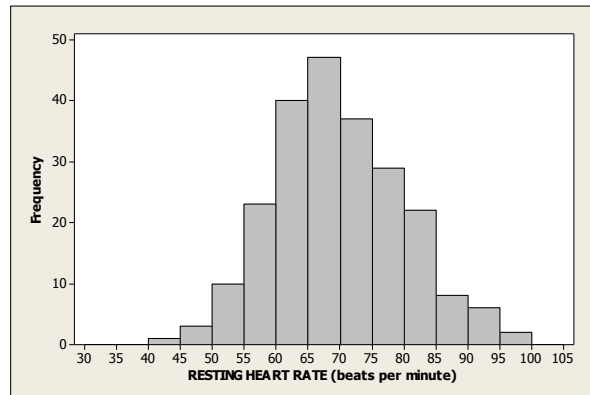
4	8
5	3569
6	01789
7	1222778
8	02567
9	16
10	1

III.

Leaf Unit = 0.10

3	3
4	8
5	35
6	1789
7	22778
8	0567
9	16678
10	1234669

6. The resting heart rates (in beats per minute) of 228 adults are summarized in the histogram below.



What value best describes the typical resting heart rate in this sample?

7. The frequency distribution shown summarizes data on the percentage of college students enrolled in public institutions for the 50 U.S. states.

Percentage Enrolled	Frequency
40 - < 50	1
50 - < 60	5
60 - < 70	2
70 - < 80	11
80 - < 90	25
90 - < 100	6

What is the relative frequency cumulative relative frequency for each interval?

8. If a frequency distribution is based on intervals of unequal widths, the vertical axis used to construct the corresponding histogram must use which of the following?

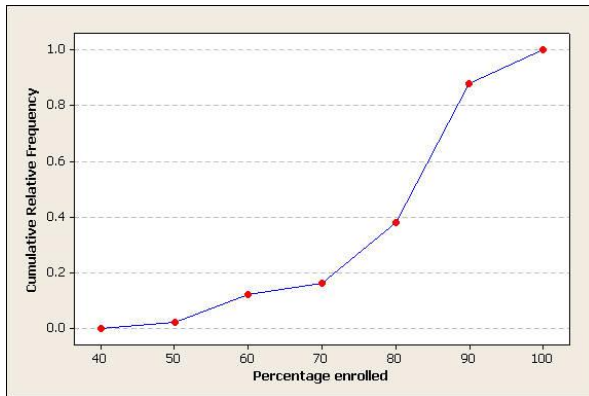
- A. a frequency scale
- B. a relative frequency scale
- C. a density scale
- D. either a frequency or a relative frequency scale can be used
- E. a frequency, a relative frequency, or a density scale may be used

9. The frequency distribution shown summarizes data on the percentage of college students enrolled in public institutions for the 50 U.S. states.

Percentage Enrolled	Frequency
40 - < 50	1
50 - < 60	5
60 - < 70	2
70 - < 80	11
80 - < 90	25
90 - < 100	6

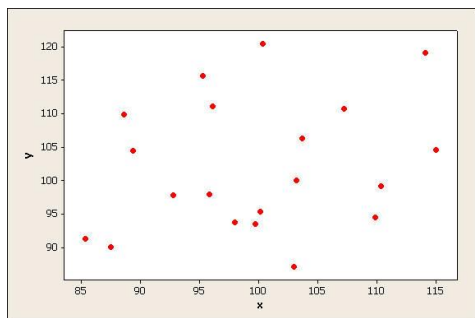
What is the relative and cumulative relative frequency for each interval?

10. The cumulative relative frequency plot shown was constructed using data on the percentage of college students enrolled in public institutions for the 50 U.S. states. Which of the following is closest to the approximate proportion of states that have fewer than 60 percent of college students enrolled in public institutions?

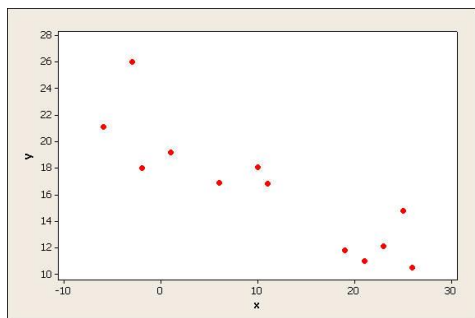


11. Describe the type or correlation that exists in each scatterplot.

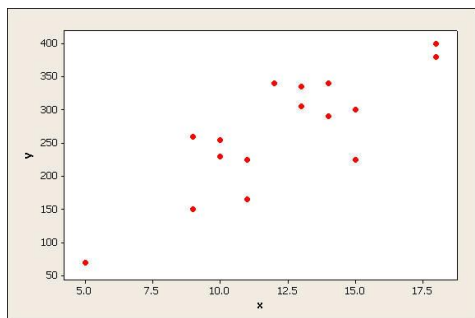
I.



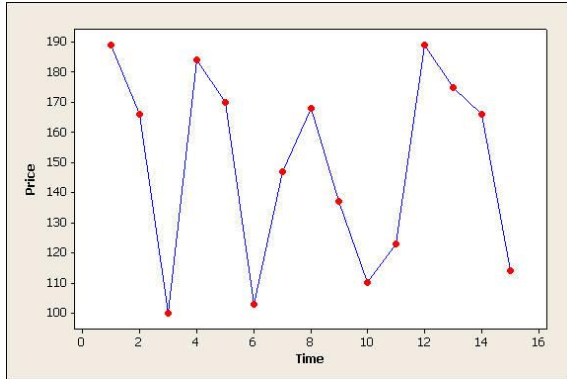
II.



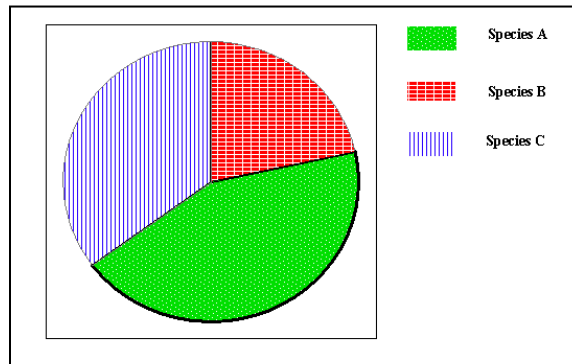
III.



12. Is there a relationship shown in the time-series plot shown below? Explain.



13. In a study of the birds in a national park, three species (labeled A, B, and C) were observed. Each bird in a sample of size 36 was classified by species. The species data was then used to construct the pie chart below. Approximately how many birds in the sample were in each species?



14. For which variables would it be appropriate to construct a histogram?

15. Describe the shape of a distribution for each of the following.

- A. Number of text books in students' back packs
- B. Weights of strawberries
- C. Scores on an easy test
- D. Scores on a hard test
- E. None of the above variables would have a distribution that is negatively skewed.

